

EX PARTE OR LATE FILED

RECEIVED

FEB - 2 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Wiley, Rein & Fielding

1776 K Street, N.W.
Washington, D.C. 20006
(202) 719-7000

Jeffrey S. Linder
(202) 719-7384
jlinder@wrf.com

Fax: (202) 719-7049
www.wrf.com

February 2, 1999

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
The Portals
455 Twelfth Street, S.W.
Room TW-A325
Washington, D.C. 20554

Re: *Ex Parte* Submission in CS Docket No. 98-178

Dear Ms. Salas:

I am attaching two original copies of a written ex parte communication in the above-captioned proceeding. The ex parte consists of a letter from John Raposa, Associate General Counsel – Federal Regulatory Matters, of GTE Service Corporation and an attached Declaration from Justin A. Aborn, Network Architect, of GTE Internetworking.

Please contact me if you have any questions.

Sincerely,


Jeffrey S. Linder

No. of Copies rec'd 2+1
List A B C D E

EX PARTE OR LATE FILED

John F. Raposa
Associate General Counsel -
Federal Regulatory Matters



GTE Service Corporation
600 Hidden Ridge, HQE03J27
P.O. 152092
Irving, TX 75015-2092
972/718-6969
FAX: 972/718-1250
john.raposa@telops.gte.com

February 2, 1999

The Honorable William Kennard
Chairman, Federal Communications Commission
The Portals
455 Twelfth Street, S.W.
Room 8-B201
Washington, D.C. 20554

RECEIVED

FEB - 2 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

**Subject: Joint Application of AT&T Corporation and Tele-Communications, Inc.
For Transfer of Control to AT&T of Licenses and Authorizations Held By
TCI and Its Affiliates or Subsidiaries, CS Docket No. 98-178
Ex Parte Submission of Affidavit of Justin A. Aborn**

Dear Chairman Kennard:

The primary issue that has arisen regarding the proposed merger between AT&T and TCI is whether it is feasible for multiple Internet Service Providers (ISPs) to share a broadband cable network. In his Declaration, Suk S. Soo,¹ Vice President of Special Projects, America Online Technologies, offered one example of how open access to a cable broadband network could be achieved. Through the Affidavit of Milo Medin,² Senior Vice President and Chief Technical Officer, @Home Networks, AT&T/TCI attempted to cast doubt on the general feasibility of open access through a critique of Soo's proposed method. In response, GTE³ herewith offers the attached Declaration of Justin A. Aborn, Network Architect, GTE Internetworking, which demonstrates that Soo's example is: (1) indeed feasible; and, more importantly, (2) merely one of a number of technically feasible methods by which cable networks can be shared by multiple ISPs.

As the Declaration points out, TCI's network – like an ILEC's network – is not *ideally* suited for use by multiple ISPs, because that is not the way it was designed. So, of course, AT&T/TCI will be able to point out aspects of *any* proposed open access scenario that are, from its perspective, less than ideal. And Medin's affidavit does just this. Despite Medin's

¹ Comments of America Online, Inc., CS Docket No. 98-178, Appendix C: Technical Declaration by Suk S. Soo, Vice President – Special Projects, AOL Technologies (filed Oct. 29, 1998) (“Soo Declaration”).

² AT&T's and TCI's Joint Reply to Comments and Joint Opposition to Petitions to Deny or to Impose Conditions, CS Docket No. 98-178, Affidavit of Milo Medin (filed Nov. 13, 1998) (“Medin Affidavit”).

³ GTE Service Corporation, GTE Alaska, Incorporated, GTE Arkansas Incorporated, GTE California Incorporated, GTE Florida Incorporated, GTE Hawaiian Telephone Company Incorporated, The Micronesian Telecommunications Corporation, GTE Midwest Incorporated, GTE North Incorporated, GTE Northwest Incorporated, GTE South Incorporated, GTE Southwest Incorporated, Contel of Minnesota, Inc., GTE West Coast Incorporated, and Contel of the South, Inc., GTE Communications Corporation, GTE Wireless Incorporated, GTE Internetworking, and GTE Media Ventures Incorporated.

criticisms, however, the fact is that open access *is* possible, and if required to allow it, AT&T/TCI is certainly capable of establishing an efficient way, in conjunction with interested ISPs, to accomplish it.

The need for such an open access requirement is evident. If the merger between AT&T and TCI is approved, the merged entity immediately will be able to offer a comprehensive and *mandatory* package of services to its customers free from the Commission's competitive safeguards, an anomalous result that arises solely because AT&T/TCI will provide many of these services over HFC cable instead of copper wire. On the other hand, ILECs, which offer the only real hope for competition to the cable companies in the bundled services market, are unable to offer consumers a viable alternative because they alone are subject to numerous regulations, including unbundling, discounted resale, interconnection, equal access, cost allocation, and affiliate transaction restrictions.

Since AT&T announced its intention to acquire TCI, it has been extremely aggressive in pursuing its goal "to be the only communications provider its customers need."⁴ AT&T has gone on a spending spree, investing billions of dollars in order to guarantee that it will be the first – and, for the foreseeable future, the *only* – company to offer consumers a bundle that includes wireless, local telephony, long distance telephony, dial-up and high-speed Internet access, Internet content, and cable television.⁵ In the last month alone, AT&T has:

- entered into a joint venture with Time Warner to offer telephone service over Time Warner's cable systems in 33 states;⁶
- agreed to build a high-speed backbone for @Home;⁷
- held substantive discussions with Microsoft about acquiring the Microsoft Network;⁸
- formed separate joint ventures with five TCI affiliates to offer customers advanced communications services;⁹

⁴ Seth Schiesel, *At Last, a New Strategy for AT&T*, The New York Times, Jan. 17, 1999, at sec. 3, p. 1, col. 2.

⁵ See, e.g., *id.* at col. 3 (describing a hypothetical post-merger AT&T telemarketing call in which the salesperson runs through the litany of AT&T/TCI offerings, and concludes with: "Oh, yes, we can provide all of these services on a single bill with one number to call if you have questions. ... By the way, if you use any three of our other services, we would be happy to add HBO and the Disney Channel to your basic cable package for no additional charge.").

⁶ See, e.g., *AT&T: Going Local via Cable*, Wired News, Feb. 1, 1999 (visited Feb. 1, 1999) <<http://www.wired.com/news/news/business/story/17644.html>>.

⁷ See, e.g., Craig Bicknell, *AT&T to Build At Home's Backbone*, Wired News, Jan. 6, 1999 (visited Jan. 21, 1999) <<http://www.wired.com/news/news/business/story/17180.html>>.

⁸ See, e.g., Kevin Maney, *Microsoft, AT&T Held Internet Talks*, USA Today, Jan. 8, 1999, at 18.

⁹ See, e.g., *AT&T Reaches Agreements to Form Commercial Joint Ventures with Five Cable*

- announced plans to accelerate TCI's network upgrade by investing an additional \$2 billion in 1999;¹⁰
- unveiled plans to offer IP telephony to TCI's customers by the end of 2000;¹¹
- played a significant role¹² in @Home's just-announced \$6.7 billion acquisition of Excite Inc., a major web portal;¹³ and
- pursued plans to sell its Internet-access business, which includes its WorldNet dial-up service, to @Home, for an even greater degree of control of @Home post-merger.¹⁴

As these acquisitions and ventures make clear, AT&T's "plan for world domination"¹⁵ encompasses a new – and heretofore untamed – frontier: the Internet. In short, AT&T intends to leverage its exclusive control of TCI's cable network in order to transform the Internet from an open environment to one dominated by the AT&T/TCI/@Home/Excite broadband monopoly.

Operators, AT&T News Release, Friday Jan. 8, 1999 (visited Jan. 21, 1999) <<http://www.att.com/press/item/0,1193,275,00.html>>.

¹⁰ See, e.g., *AT&T Speeds Up Plan on Local Phone Service*, Washington Post, Jan. 9, 1999, at G2.

¹¹ See, e.g., *id.* Clearly, TCI's statement to the Commission in the Annual Cable Competition Report that it does not have any plans for voice telephony are no longer accurate. See Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, FCC 98-335, at ¶ 40 (released Dec. 23, 1998) (Fifth Annual Report).

¹² See, e.g., John Borland, *AT&T nabs content for broadband bid*, CNET News.com, Jan. 19, 1999 (visited Jan. 21, 1999) <<http://www.news.com/news/item/0,4,3,1129,00.html>> ("While executives remained mum on exactly what role AT&T's management played in sealing the deal, it is clear chairman C. Michael Armstrong was close to the merger negotiations . . . 'The chairman was consulted on these transactions,' confirmed AT&T spokesman Pat Stortz. 'We clearly have an interest in @Home's success post-merger.'").

¹³ See, e.g., Larry Dignan, *The Day Ahead: AT&T biggest winner in Excite-At Home merger*, Inter@ctive Investor, Jan. 19, 1999 (visited Jan. 21, 1999) <<http://www.zdii.com/thedayahead.asp>> ("You can count on AT&T WorldNet service, which already has a business relationship with Excite, to champion this new, 'allband' portal, while combining it with AT&T's IP and traditional communications services," said AT&T chief C. Michael Armstrong, in a statement.").

¹⁴ See, e.g., Kara Swisher and Rebecca Blumenstein, *AT&T May Sell Internet-Access Lines, Including WorldNet, to At Home Corp.*, The Wall Street Journal, Jan. 22, 1999, at A3. The proposed transaction, in which @Home would reportedly pay for AT&T's Internet-access business with \$1 billion of its own stock, is contingent upon final approval of AT&T/TCI's merger. TCI currently owns 28% of @Home's shares. *Id.* at A6.

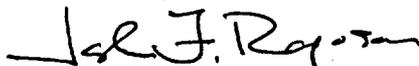
¹⁵ Joanna Glasner, *AT&T Gets Excited, Too*, Wired News, Jan. 20, 1999 (visited Jan. 21, 1999) <<http://www.wired.com/news/news/business/story/17416.html>>.

In today's primarily narrowband world, if a consumer is not interested in the proprietary content that, for example, America Online includes as part of its offering, he or she can select any number of other ISPs that offer stripped-down Internet access, thereby avoiding the additional fees associated with that content. In the broadband future, however, this choice will be eliminated, as a result of AT&T/TCI/@Home/Excite's exclusive access to TCI's cable network. AT&T/TCI will own and control the broadband last mile, @Home will be the *only* broadband high-speed link available, and consumers, whether they like it or not, will be forced to pay for the content provided by both @Home and Excite, even to reach their ISP of choice if it is not @Home.¹⁶

The Internet has always embodied the concept of freedom, but as a coalition of narrowband ISPs recently stated to the Commission: "[i]f cable operators control their broadband networks in a way that erodes the fundamental openness of the Internet, consumers will have fewer choices, products, services, features, and price."¹⁷ And ISPs are not the only ones concerned. In a recent letter, Congressman Edward Markey of Massachusetts warned that "[a]ny attempt by large corporate owners of the broadband wire to warp an open Internet platform into a more closed system could create a discriminatory corporate filter for cyberspace."

Clearly, AT&T and TCI would prefer not to afford nondiscriminatory access to competing ISPs. That preference, however, cannot drive technology or policy. From a technological standpoint, open access is eminently feasible. From a policy standpoint, such access is vitally necessary to promote fair competition in the market for bundled services, as GTE, independent ISPs and a myriad of consumer groups demonstrated in their comments in opposition to the AT&T/TCI transfer application.

Sincerely,



John F. Raposa
Associate General Counsel -
Federal Regulatory Matters

cc: Commissioner Harold Furchtgott-Roth
Commissioner Susan Ness
Commissioner Michael Powell
Commissioner Gloria Trisani
Secretary, Federal Communications Commission (two copies)

¹⁶ @Home currently provides its customers a variety of content. After @Home acquires Excite, it intends to replace its own portal with a broadband version of Excite, but @Home will continue to offer its customers its own content in other forms. See Patricia Riedman, *@Home, Excite union to create broadband portal*, Advertising Age (visited Jan. 26, 1999) <<http://www.adage.com/interactive/articles/19990125/article1.html>> (reporting that @Home "recently purchased Narrative Communications, which makes Enliven, a multimedia streaming software").

¹⁷ Joanna Glasner, *ISPs Demand Cable-TV Access*, Wired News, Jan. 20, 1999 (visited Jan. 22, 1999) <<http://www.wired.com/news/news/business/story/17448.html>>.

**Declaration of Justin A. Aborn
on behalf of GTE**

CS Docket No. 98-178

February 2, 1999

Table of Contents

I. Introduction.....	1
II. Despite AT&T/TCI's Efforts To Avoid It, The Issue Is Whether Open Access To TCI's Broadband Cable Network Is Feasible.	2
A. Broadband cable facilities <i>currently</i> are not <i>specifically</i> designed to facilitate ISP interconnection largely because of the absence of a regulatory requirement to do so, not for any technical reason.	3
B. Nearly all of the modifications that AT&T/TCI would need to make in order to allow open access do not involve the network infrastructure.	4
C. The assertions made by Medin confuse, rather than refute, the point that open, nondiscriminatory access to AT&T/TCI's broadband cable network by competing ISPs IS possible.	4
1. Medin's statement that "it is impractical for each ISP in a multiple provider situation to have its own DHCP server" ignores the fact that it is possible for more than one ISP to share a single DHCP server.	5
2. Medin's statement that the shared nature of the cable system exposes users to degraded service caused by an "ill- behaved modem or user" is true, but is unrelated to the number of interconnecting ISPs.	7
3. Changes to a cable system's node combining plan are dictated by increased usage, not by the opening of broadband cable networks to multiple ISPs.	8
4. Medin greatly exaggerates the impact that a multiple-ISP environment would have on billing.	8
5. Medin's characterization of Soo's proposed method of routing IP packets is based on an incorrect assumption regarding "source identifiers."	9
6. Medin's statement that most CMTS devices and cable modems are routers, not bridges, is inaccurate.	9

7. Layer-2 switch congestion, a problem that is not unique to cable systems, can be managed by policy.....	10
8. Provisioning, troubleshooting, and introducing new technology may require the development of new policies and technical solutions.....	10
III. Conclusion.....	10

Declaration of Justin A. Aborn

I. Introduction.

My name is Justin A. Aborn. I am a Network Architect at GTE Internetworking. My current responsibilities primarily include managing the engineering and deployment of the Internet Protocol (IP) portion of GTE's Asymmetric Digital Subscriber Line (ADSL) high speed Internet Service.

I joined Bolt, Beranek, and Newman Inc. (BBN) in August 1984 as an electrical engineer designing circuit boards for the special purpose computers used in digital communications (routers and switches of various sorts). I became involved in the deployment and architecture of the networks that use these devices when I worked to field the hardware I designed. In the Summer of 1996 I was assigned as BBN's principal engineer to a consulting contract with, then, Continental Cablevision Inc. (now MediaOne Inc.). Continental Cablevision wanted experienced help in designing and launching their data over cable product, now called MediaOne Express. My work on this contract continued through June 1997. In the course of this work I was involved in analyzing the tradeoffs between: cable modem features and capabilities, router features and capabilities, Hybrid Fiber/Coax (HFC) infrastructure topology, and Local Area Network (LAN) and Wide Area Network (WAN) data transport technologies. I was also involved in the day to day management of the deployment and initial customer troubleshooting.

In 1997 GTE bought BBN, and created the GTE subsidiary GTE Internetworking, where I am employed today.

I have been asked by GTE to respond to the Affidavit of Milo Medin.¹ As a general matter, the points that Medin makes are factually correct. However, taken as a whole, Medin's Affidavit reaches erroneous conclusions regarding the feasibility of permitting multiple ISPs to access a broadband cable network. In reality, as discussed herein, Soo's proposal is a reasonable method for achieving open access to TCI's cable network. More importantly, the proposal set forth in the Declaration of Suk S. Soo is but one of *many feasible methods* of interconnection. Quite simply, a pro-competitive open access requirement is technically feasible.

II. Despite AT&T/TCI's Efforts To Avoid It, The Issue Is Whether Open Access To TCI's Broadband Cable Network Is Feasible.

While Medin's response to the ISP interconnection example described in the Soo Declaration may be factually accurate in most instances, it does not refute the principal point that allowing competing ISPs open, nondiscriminatory access to TCI's broadband cable network *is* technically feasible.

The Medin Affidavit does not offer any guidance regarding how open access might be achieved, but instead presents a narrowly crafted, point-by-point critique of one *possible* open-access scenario. The interconnection method described by Mr. Soo in his Declaration, however, is feasible – notwithstanding Medin's critique – and, in any event, is by no means the only technically feasible way that competing ISPs might

¹ AT&T's and TCI's Joint Reply to Comments and Joint Opposition to Petitions to Deny or to Impose Conditions, CS Docket No. 98-178, Affidavit of Milo Medin (filed November 13, 1998) ("Medin Affidavit"). The Medin Affidavit is in response to the Declaration of Suk S. Soo. Comments of America Online, Inc., CS Docket No. 98-178, Appendix C: Technical Declaration by Suk S. Soo, Vice President – Special Projects, AOL Technologies (filed October 29, 1998) ("Soo Declaration").

access AT&T/TCI's cable network. Nor was it intended to be, for as Mr. Soo stated: "There are many possible points where multiple Service Providers can interface to the cable system on an open access basis. We will treat herewith the interface at the CMTS-NSI, as a *demonstration* of how this open access can be implemented."²

AT&T/TCI, via the Medin affidavit and in other forums, has intentionally avoided the broader question, which is *whether or not open access to the cable system is technically feasible apart from the Soo proposal*. As described below, Medin's Affidavit merely reveals that it would be *inconvenient* for AT&T/TCI to open up its broadband cable network to competing ISPs. Despite AT&T/TCI's reluctance to admit it, open access is eminently achievable.

A. Broadband cable facilities *currently* are not *specifically* designed to facilitate ISP interconnection largely because of the absence of a regulatory requirement to do so, not for any technical reason.

The lone product that currently has the potential to compete with cable modem Internet access is xDSL. If high-speed cable Internet access had developed under the same regulatory restrictions as xDSL, broadband cable networks would have been designed – as xDSL plant has been – to facilitate equal access by multiple ISPs. To date, however, no such nondiscriminatory access requirement has been extended to coax, as opposed to copper.

Because of this historical inequity, broadband cable networks thus far have not been designed specifically to be used by multiple ISPs. Nor, for that matter, were the local telephone networks originally designed to be used by multiple carriers. But just as

² Soo Declaration at ¶ 4 (emphasis added).

the LECs have modified their systems to allow interconnection by multiple entities, so, too, can AT&T/TCI modify its cable network to allow open access by competing ISPs.³ To claim that broadband cable facilities are not equipped for multiple-ISP access, and therefore AT&T/TCI should not be required to share their network, is a circular argument, and should be rejected as such.

B. Nearly all of the modifications that AT&T/TCI would need to make in order to allow open access do not involve the network infrastructure.

The cable network infrastructure, as it is currently configured, is essentially already capable of handling multiple ISPs. Virtually no changes would need to be made to the network infrastructure itself.⁴ The most significant differences between a shared and a non-shared scenario are likely to manifest themselves in two areas: (1) Information Technology systems, and (2) policies and procedures. In both cases, however, the challenge is not technical, but organizational.

C. The assertions made by Medin confuse, rather than refute, the point that open, nondiscriminatory access to AT&T/TCI's broadband cable network by competing ISPs IS possible.

As I demonstrate below, all of the problems that Medin attributes to Soo's example can, in fact, be solved. Despite the reluctance on the part of AT&T/TCI to

³ Medin argues repeatedly that the cable system and the telephone system are very different. Medin Affidavit at 2-3, 3, 5. While this is obviously a true statement, it does not change the fact that both types of systems may be shared.

⁴ There are only two minor modifications that would need to be made: (1) as Medin describes on page one of his Affidavit, each interconnecting ISP would need to connect an Ethernet switch to the CMTS; and (2) the routing configuration may need to be modified. No changes in either the cable plant or the routing hardware would necessarily be required.

share their network, the answer to the question at issue – whether an open access system is technically feasible – is “Yes.”

1. **Medin’s statement that “it is impractical for each ISP in a multiple provider situation to have its own DHCP server” ignores the fact that it is possible for more than one ISP to share a single DHCP server.**

The fact that, in Medin’s opinion, multiple DHCP servers⁵ would be “impractical” is irrelevant in this context for several reasons. First of all, the issue at hand is whether or not open access is *technically feasible*, not whether, in AT&T/TCI’s opinion, it is *practical*. Second, no technical changes would be required if AT&T/TCI were to choose to operate from a single DHCP server whose entries are modified through intercompany cooperation. For example, an ISP and @Home (or the cable operator)⁶ could develop a procedure and compensation system pursuant to which @Home would make entries in their DHCP system to facilitate the ISP customers’ connections.

Second, in crafting the equal access approach, it may be deemed desirable to use multiple DHCP servers. Even in a multiple DHCP server model, there are a variety

⁵ DHCP stands for Dynamic Host Configuration Protocol. DHCP is an automated mechanism for configuring an end user’s computer with an Internet Protocol address (as well as other network parameters in the user’s computer. For example, DHCP is used when “Obtain an IP address automatically” is selected in the Windows 95 TCP/IP control panel).

⁶ According to Medin, @Home currently manages and configures the CMTS, but if open access is required, many of the functions currently performed by @Home would need to be taken over by the cable operator. I do not believe that that is an accurate statement, because it ignores the fact that collocation procedures have been developed in the telephone industry – and could easily be utilized in the cable network context.

of mechanisms for facilitating such collaboration. The following is a non-exhaustive list of examples of DHCP management techniques:

- Some DHCP servers⁷ can execute scripts when DHCP requests arrive and meet configurable criteria, such as “brand new MAC address”⁸. These scripts could do any number of things, such as make database inquiries to determine to which ISP a customer subscribes.
- The DHCP specification also includes “Option 82,” which allows a router vendor to label a DHCP request with whatever information it wants. This information can be used to control how a DHCP server handles requests.⁹
- The DHCP specifications were developed by the IETF.¹⁰ Therefore, to facilitate collaboration, AT&T/TCI could advocate and pursue a Request For Comment (“RFC”) to the appropriate IETF working group. Allowing for protocol enhancement via such industry collaboration makes anything possible.

The bottom line is that, whether or not it may be “impractical” from Medin’s perspective, DHCP support *is* technically feasible.

⁷ The “American Internet” DHCP server software (recently purchased by Cisco) is an example of DHCP server software with scripting capability.

⁸ The Media Access Control (“MAC”) address is a unique number assigned to each computer network interface card.

⁹ Although Medin argues that multiple DHCP servers are impractical, Option 82 could also potentially be used to label DHCP requests so that DHCP requests from other ISPs’ users could be routed to those ISPs’ DHCP servers.

¹⁰ The Internet Engineering Task Force is the principal body engaged in the development of new Internet standard specifications.

2. Medin's statement that the shared nature of the cable system exposes users to degraded service caused by an "ill-behaved modem or user" is true, but is unrelated to the number of interconnecting ISPs.

a. The "ill-behaved modem."

One of the major problems with Medin's critique of Soo's proposal is that it incorrectly attributes issues raised by a large number of end users to an open access environment that allows more than one ISP to serve consumers. The "ill-behaved modem" problem falls into that category. While it is true that a malfunctioning cable modem can affect the service level of other users sharing that portion of the cable plant, this risk already exists today and would not necessarily be exacerbated by allowing additional ISPs to access the broadband network. Consequently, it does not justify foreclosing competitive access.

b. The "ill-behaved user."

First of all, the "ill-behaved user" problem is not related to the number of ISPs connected to the network. Nor, for that matter, is it necessarily related to the number of users. Excessive bandwidth consumption is a function of the amount of bandwidth available. If there are only two users on a segment of the cable plant, and one user is using 95% of the available bandwidth, then this problem will arise. Thus, this risk is not a justification for denying competing ISPs access to the broadband cable network.

Furthermore, this risk applies equally to telephone-based Internet access. For example, if dial-up customers remain connected to their ISP for long periods of time, they usurp telephone switch capacity. The telephone system can become heavily loaded, making it more difficult for customers to "get a dial tone." While this is certainly

a fact, it has never been a rationale to allow a LEC to refuse to transport customers' data communications to their chosen ISP in favor of only the LEC's affiliated ISP.

3. Changes to a cable system's node combining plan are dictated by increased usage, not by the opening of broadband cable networks to multiple ISPs.

Medin is correct when he observes that a cable operator could be forced to "change its 'node combining plan'" if an interconnecting ISP dramatically increased its load (i.e., if a competing ISP were to successfully sell more customers). But a cable operator must change its node combining plan whenever there is an inadequate amount of bandwidth available to customers connected to that node. Thus, this problem already exists. And, once again, it is a problem that is caused by the *amount of use*, not by the number of ISPs. Thus, if AT&T/TCI is successful in marketing their @Home service to consumers, they will face this issue irrespective of any open access requirement.

4. Medin greatly exaggerates the impact that a multiple-ISP environment would have on billing.

Medin states that provisioning systems can be expensive to develop and maintain, but the need to develop "homes passed" and "node combining" databases exists even without multiple-ISP access. The additional work that would arise were the network opened up to competing ISPs is associated with sharing, rather than developing, that information.

Moreover, Medin's argument is based on a perceived need to coordinate ISP databases with cable subscriber databases, a need that does not exist. GTE does not

bill its xDSL services in this fashion, and there is no need for cable systems to do so, either.

5. Medin's characterization of Soo's proposed method of routing IP packets is based on an incorrect assumption regarding "source identifiers."

Medin's assertion that Soo's proposed method of interconnection "assumes that the SMTS will route packets based on the source IP address" is incorrect. The scenario that Soo describes is, in fact, completely plausible. Soo's declaration does *not* say to use the "source IP address" to set the next hop gateway. Soo, in fact, uses the phrase "source identifier," *not* "source IP address." There is a significant difference. A "source identifier" could be many things. The most straightforward example of such an identifier is the unique Media Access Control (MAC) address that is programmed into each and every network interface card on the market today.

6. Medin's statement that most CMTS devices and cable modems are routers, not bridges, is inaccurate.

Medin asserts that "most CMTS devices are routers," that "most cable modem devices are routers, not bridges," and that these factors make Soo's scenario infeasible. This is not accurate. First of all, the statement incorrectly implies that there are few cable modems that are bridges. One of the largest data over cable providers, MediaOne, uses LanCity (now owned by Nortel) cable modems that operate as bridges. Second, it should be mentioned that whether *most* of these devices are routers or bridges is irrelevant, because routers can also readily implement functions that support Soo's proposed scenario.

7. Layer-2 switch congestion, a problem that is not unique to cable systems, can be managed by policy.

Medin states that “[t]here is no reason to believe that layer-2 switch congestion” problems at the current FDDI-based Internet NAPs would not also occur at the CMTS. However, this problem is not unique to cable headends, as Medin admits. Moreover, congestion occurs whenever there is more traffic than capacity. This can occur in single provider systems and is managed by policy. Congestion is not the necessary result of a shared system. The situation at today’s NAPs exists in its own right. The NAP’s policies and procedures need not dictate how to manage cable network infrastructure. The NAPs do, however, present an example of what happens when the demand on the system is not tied to the investment in that system.

8. Provisioning, troubleshooting, and introducing new technology may require the development of new policies and technical solutions.

While it is true that it would be more difficult to provision customers, troubleshoot, and introduce new technology in an open environment, these activities clearly do not make open access technically infeasible. These activities are, in fact, possible, although they may require the development of both new policies and technical solutions. Cable operators would face no challenges in this regard that ILECs have not already overcome.

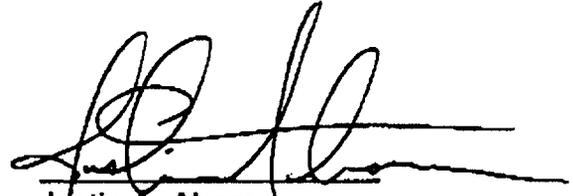
III. Conclusion.

The Medin Affidavit fails to demonstrate that the interconnection example given by Suk S. Soo is infeasible, and it is not. Moreover, Medin utterly fails to address other possible interconnection options. AT&T and TCI have attempted to sidestep the issue

of open access feasibility by diverting the Commission's attention to the specifics of one proposal. But the truth is that open access is eminently feasible, and if AT&T and TCI instead focused on possible solutions, they would be able to find a satisfactory method for sharing TCI's broadband cable network, just as GTE has been able to do for its xDSL plant.

I declare under the penalty of perjury that the foregoing is true and correct.

Executed on 2/1/99.



Justin A. Aborn
Network Architect
GTE Internetworking
jAborn@bbn.com
(617) 873-3552

CERTIFICATE OF SERVICE

I, Robin Walker, hereby certify that on this 2nd day of February , 1999, I caused copies of the foregoing ex parte letter to be sent via hand-delivery or via first-class mail, postage pre-paid to the following:

*International Transcription Service, Inc.
1231 20th Street, NW
Washington, DC 20036

*Deborah Lathen, Chief
Cable Services Bureau
Federal Communications Commission
2033 M Street, NW
Room 918
Washington, DC 20554

*Royce Dickens
Policy and Rules Division
Cable Services Bureau
Federal Communications Commission
2033 M Street, NW
Room 406
Washington, DC 20554

*Quyen Truong
Policy and Program Planning Division
Common Carrier Bureau
Federal Communications Commission
1919 M Street, NW
Room 544
Washington, DC 20554

*Evette Keene
Video Services Division
Mass Media Bureau
Federal Communications Commission
1919 M Street, NW
Room 712
Washington, DC 20554

*Karl Kensinger
Satellite and Radio Communication Division
International Bureau
Federal Communications Commission
2000 M Street, NW
Room 800
Washington, DC 20554

*Sherille Ismail
Telecommunications Division
International Bureau
Federal Communications Commission
2000 M Street, NW
Room 800
Washington, DC 20554

*Walter Strack
Wireless Telecommunications Bureau
Federal Communications Commission
2025 M Street, NW
Room 5002
Washington, DC 20554

*By hand

Stephen J. Flessner
Director of FCC Compliance
Cable Regulatory Compliance
Department
Terrace Tower II
5619 DTC Parkway
Englewood, CO 80111-3000

Mark D. Schneider
Sidley & Austin
1722 Eye Street, N.W.
Washington, D.C. 20006
(Counsel for AT&T)

Mark C. Rosenblum
AT&T Corporation
295 North Maple Avenue
Baskin Ridge, NJ 07920

Gary Klein, Esq.
Vice President
Government and Legal Affairs
Consumer Electronics
Manufacturers Association
2500 Wilson Boulevard
Arlington, VA 22201

George Vradenburg, III
William W. Burrington
Jill A. Lesser
Steven N. Teplitz
AMERICA ONLINE, INC.
1101 Connecticut Avenue, N.W.
Suite 400
Washington, D.C. 20036

David R. Siddall, Esq.
Verner, Liipfert, Bernhard, McPherson
& Hand, Chartered
901 15th Street, N.W. Suite 700
Washington, D.C. 20005
(Counsel for Consumer Electronics
Manufacturers Association)

Kelly R. Welsh, Esq.
John T. Lenahan, Esq.
30 S. Wacker Drive
39th Floor
Chicago, IL 60606
(Counsel for Ameritech)

Cheryl A. Leanza
Andrew Jay Schwartzman
Gigi B. Sohn
Media Access Project
1707 L Street, N.W., Suite 400
Washington, D.C. 20036

Christopher M. Heimann, Esq.
1401 H Street, N.W., Suite 1020
Washington, D.C. 20005
(Counsel for Ameritech)

David K. Moskowitz
EchoStar Communications Corporation
5701 South Santa Fe
Littleton, CO 80120

Gary M. Epstein
James J. Barker
Kimberly S. Reindl
Latham & Watkins
1001 Pennsylvania Ave, N.W.
Suite 1300
Washington, D.C. 20004
(Counsel for DIRECTV, INC.)

Henry L. Baumann
Jack N. Goodman
Valerie Schulte
National Association of Broadcasters
1771 N Street, N.W.
Washington, D.C. 20036

Philip L. Malet
Pantelis Michalopoulos
Colleen Sechrest
Steptoe & Johnson LLP
1330 Connecticut Avenue, N.W.
Washington, D.C. 20036
(Counsel for EchoStar
Communications Corporation)

Drake Tempest
Joseph T. Garrity
QWEST COMMUNICATIONS
CORPORATION
555 17TH Street
Denver, CO 80202

Kecia Boney
Larry Fenster
Lisa B. Smith
MCI WORLDCOM, Inc.
1801 Pennsylvania Avenue, N.W.
Washington, D.C. 20554

Danny E. Adams
Rebekah J. Kinnett
KELLEY DRYE & WARREN LLP
1200 19th Street, N.W.
Suite 500
Washington, D.C. 20036
(Counsel for Qwest Communications
Corporation)

Charles M. Brewer
Chairman and Chief Executive Office
MindSpring Enterprises, Inc.
1430 West Peachtree Street
Suite 400
Atlanta, GA 30309

James D. Ellis
Liam S. Coonan
Wayne Watts
SBC COMMUNICATIONS INC.
175 East Houston Street
San Antonio, TX 78205

Michael K. Kellogg
Evan T. Leo
Kellogg, Huber, Hansen, Todd &
Evans, P.L.L.C.
1301 K Street, N.W., Suite 1000 West
Washington, D.C. 20005
(Counsel for SBC Communications
Inc.)

Peter M. Glass
Seren Innovations, Inc.
10 South 5th Street, Suite 840
Minneapolis, MN 55402

Norman M. Sinel
Stephanie M. Phillipps
Arnold & Porter
555 Twelfth Street, N.W.
Washington, D.C. 20004
(Counsel for SBC Communications,
Inc.)

William T. Lake
William R. Richardson, Jr.
Lynn R. Charytan
David Sohn
Todd Zubler
Wilmer, Cutler & Pickering
2445 M Street, N.W.
Washington, D.C. 20037-1420
(Counsel for U S WEST, INC.)

James W. Olson
Gregory F. Intoccia
Howrey & Simon
1299 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
(Counsel for Seren Innovations, Inc.)

Mark Roellig
Dan L. Poole
Sharon J. Devine
U S WEST, INC.
1020 19th Street, N.W.
Washington, D.C. 20036

Leon M. Kestenbaum
Jay C. Keithley
Michael B. Fingerhut
1850 M Street, N.W., 11th Fl.
Washington, D.C. 20036
(Counsel for Sprint Corporation)

Paul J. Sinderbrand
Robert D. Primosch
Wilkinson, Barker, Knauer, & Quinn, LLP
2300 N Street, N.W., Suite 700
Washington, D.C. 20037-1128
(Counsel for The Wireless Communications
Association International, Inc.)

Sandra K. Williams
4220 Shawnee Mission Parkway
Westwood, KS 66205
(Counsel for Sprint Corporation)

Anthony C. Epstein
Jenner & Block
601 Thirteenth Street, N.W.
Washington, D.C. 20005
(Counsel for MCI WORLDCOM, INC.)

William E. Burhop
Executive Director
Independent Cable &
Telecommunications Association
5335 Wisconsin Avenue, N.W.
Suite 750
Washington, D.C. 20015


Robin Walker